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ABSTRACT

Learning style studies that describe students' individual learning differences and studies on types of schooling which best match students' cognitive styles are examined. Three approaches to the subject are discussed: (1) global personality perspectives, which look at several general traits; (2) cognitive mapping with minute analysis of many traits; and (3) school-oriented approaches, which try to balance individual trait analysis against possibilities in structuring schools. An analysis is presented of research on how these approaches define learning styles and how they offer ways in which learning style may be successfully matched with different types of schools and teaching methods. Several questions of philosophy and values are discussed: (1) importance of meeting a style difference; (2) ability to adapt to a situation that does not fit one's own learning style; and (3) attitude of the school toward adaptability. From these considerations, it is concluded that many students could significantly improve achievement if their needs for different learning environments were met. It is suggested that ability to adapt to a less than desirable learning situation depends on the student's fundamental learning ability and self-confidence. The paper concludes with a discussion of beliefs about the nature of schools and their role in society and about how these beliefs influence educators' responses to learning style differences. (JD)

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THE STATUS OF STYLES

By Robert L. Fizzell

While learning style has become a popular topic only in the past decade--particularly the past five years--we must note at the outset of this discussion that it involves few new ideas. Primarily, what we have is simply a reevaluation and clarification of things many teachers have always recognized. Educators have long talked about meeting individual differences, and a few exceptional teachers have been able to do so to a large extent. Learning style studies represent efforts to describe those individual differences to which we must respond so that all students' needs may be met.

While the ideas are not new, their widespread application would be. If we bring these ideas together and create structures which reach all children, we will radically change public schooling. It is with this in mind that we here take a close look at the various ideas related to learning styles and at how these relate to our concepts of schooling. It is most important that educators not only understand learning style, but further understand the assumptions behind these ideas and the implications of them. That is our purpose here: to develop some perspective on these ideas.

At the simplest level, we may view learning style as one's preferred way of doing things related to learning. Just as some people do best at a job where they are their own boss and others are best as part of a team, and some people prefer night shift while others can't even conceive of working nights, so some students will flourish in a traditional school program while others only excel in independent study. For example, today teachers are faced with the need to

SP 021 501

know about computers. How would you prefer to learn this? You might take a continuing education course; or you might ask a friend who is an expert to trade you some instruction time in exchange for some favor from you. Alternatively, you might get yourself a manual and spend some time evenings or weekends teaching yourself with the school's machine; or you might get together with some friends who wanted to learn and work together to teach yourselves on the school's machine.

Whichever way you picked, you probaoly feel that it is the natural way to learn; yet, only about one person in four would agree with you. Having asked this question of many people many times, I can assure you that people do not agree on one right or best way. Yet, this simple four way division is not enough to recognize the diversity of styles which students bring to school. Learning style theory and research is looking at much more complexity than this.

Types of Approaches

In fact, there are at least three different approaches being taken in this work. At the broadest level are the global personality perspectives which look at a few general traits. At the other extreme is cognitive mapping with minute analysis of many traits. In between are school-oriented approaches which try to balance individual trait analysis against recognized possibilities in structuring schools. After looking briefly at each of these, we shall discuss some of the questions which cross the whole field.

The global personality approaches typically divide people into four categories based on two bipolar continua. Gregorc has probably done the most to popularize such an approach.[1] Using the two variable sets of Random--Sequential and Concrete--Abstract, he hypothesizes four basic styles: Concrete Sequential, Concrete Random, Abstract Sequential, Abstract Random. Concrete means preferring real world experience as a source of information as opposed to the abstract

approach which prefers to deal with ideas. Random processing of information reflects the desire to survey and explore as opposed to proceeding in some predetermined order as in sequential processing.

Alex Lotas and Kiersey and Bates have also proposed four-way classifications. Lotas,[2] drawing from Carl Jung, uses Sensation vs. Intuition and Thinking vs. Feeling as his continua, while Kiersey and Bates borrow from the Meyers-Briggs personality inventory the two pairs of Sensing--Intuitive and Processing--Judging. Obviously, these people are all looking at very similar conceptualizations. That they have all reached similar conclusions is suggestive that there is some real basis for what they see.

Interestingly, a very similar set of conclusions was formulated over 2,500 years ago in a very different context. At that time people were seen as either active or passive and as either emotional or thoughtful. From these elements, the ancient Hindus proposed that people needed four basic ways of practicing religion--the four yogas or paths--which are described in the Bhagavad Gita. This similarity must be more than chance. In fact, experience tells us that people do tend to fall into such categories.

The global approach has been useful in helping school people to become aware of the concept of learning styles. It is easily communicated, has "face" validity, and relates to some recognized differences in educational practices. It is too broad for specific application by teachers, however.

Moving on to the other extreme in analysis, we find those researchers and theoreticians who wish to look at the individual learner in minute detail. Calling their work cognitive mapping, Hill and others[4] look at several variables with many possibilities on each. Hill finds 330 types of people, and the LIF Learning Skills Inventory finds 22,022! Obviously, we would be hard pressed to respond to all of these variations. In fact, that is just the problem with

this approach. We are so overwhelmed with information that we don't know where to begin. Even the developers of these approaches are unable to adequately explain how to apply them in the classroom. However, they do provide us with insight into the variety of human differences and may be useful in analyzing individual cases.

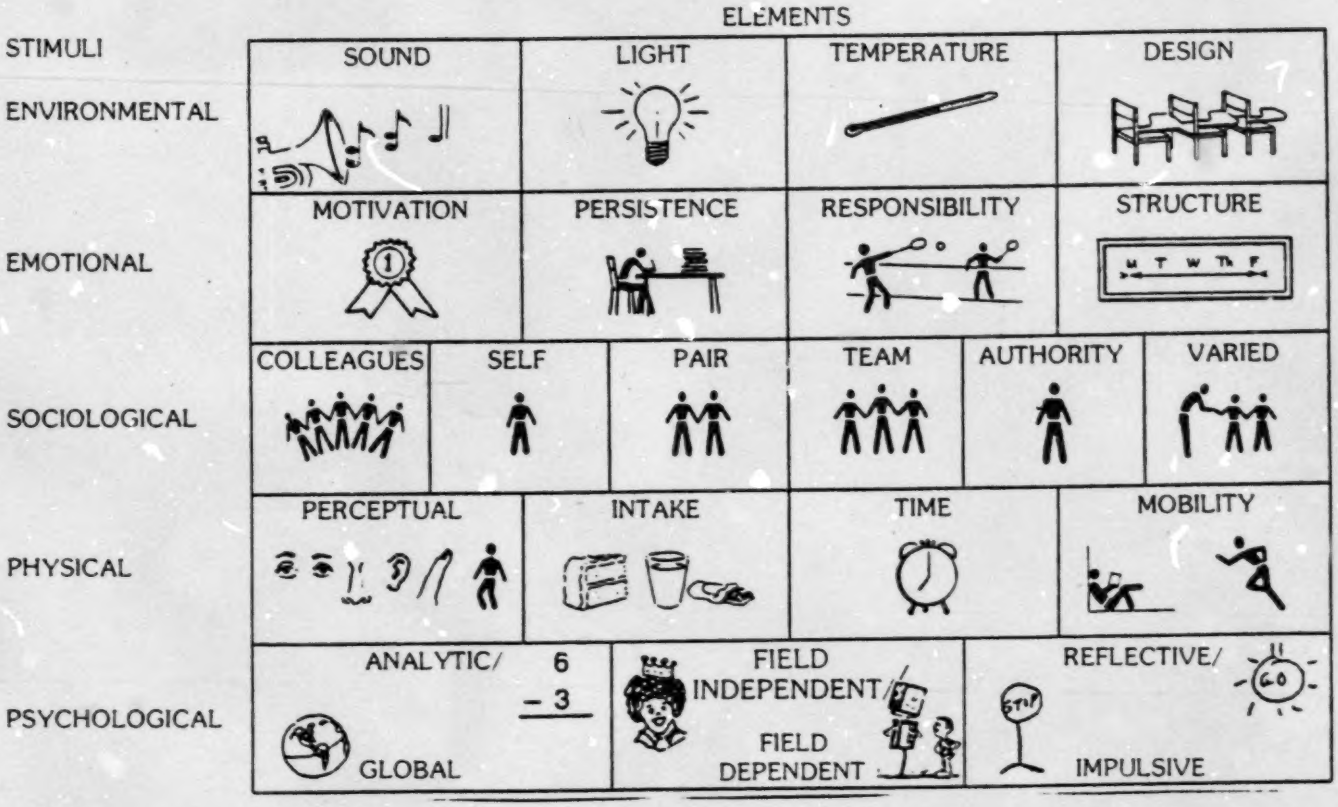
Between these two extremes are several different efforts which are what most people mean when they refer to learning style. The oldest of these is Individually Guided Education (IGE) developed at the University of Wisconsin, Madison, some 20 years ago, which is one of the first systematic efforts at individualizing instruction.

Rita and Kenneth Dunn followed this about 15 years ago with the first work using the term "learning styles." While they have revised their variables over the years, their current structure is typical of what they have worked with.[5] They see five stimuli with from three to six elements each (Figure 1). These components are closely tied to actual classroom conditions and techniques and may be considered and planned for in developing programs for one's students.

Another approach which tries to maintain a close connection between student characteristics and programming is that of Fizzell.[6] Calling his conceptualization Schooling Style, he looks at thirteen variables which relate to about 18 different types of programs (Figures 2, 3). Fizzell recognizes that the relative importance of these factors will differ from one student to another and that different programs permit flexibility in some areas but not in others. He differs from the Dunns and IGE in claiming that no one structure permits sufficient variability on all factors to serve all students. Thus, he recommends different types of schools where they recommend individual adjustments within the classroom.

The work in this middle approach of learning styles is the most thoroughly

FIGURE 1



FROM: Dunn, Dunn and Price, "Identifying Learning Styles," in Student Learning Styles: Diagnosing and Prescribing Programs, NASSP, Reston, VA, 1979.

FIGURE 2

THE VARIABLES

CONCEPTUAL APPROACH

Abstract ⟷ Concrete

Passive ⟷ Active

INSTRUCTIONAL MODE

Tutorial

Self Group

Peer

PERCEPTUAL PREFERENCE

Visual

Auditory Tactile

CURRICULAR INTERESTS

Liberal Arts

General Studies Special Studies

TIME PREFERENCES

Concentrated ⟷ Segmented

Spontaneous

Externally Imposed Self Imposed

Preferred Time of Day

Interruptions

ACHIEVEMENT LEVEL

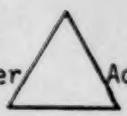
COUNSELING SUPPORT

Little ⟷ Much

SOCIAL ORIENTATION

Self

Peer Adult



SOCIAL ENVIRONMENT

Personal ⟷ Impersonal

Competitive ⟷ Noncompetitiv

FIGURE 3

BASIC SCHOOL TYPES

		Students:Teachers
Directed Group Study	Large, rigid schedule	5000:100
	Large, flexible schedule	
	Small, rigid schedule	500:15
	Small, flexible schedule	
	Self-contained classroom	25:1
Peer Study Group	Liberal arts, segmented	
	Liberal arts, concentrated	350:10
	General studies, segmented	
	General studies, concentrated	175:5
	Special studies	90:3
Self Instruction	Personalized	40:2
	Strong peer interaction	120:5
	Impersonal	300:12
Tutorial	Personalized	50:7
	Impersonal, strong peer interaction	150:20

Modifying Factors

Time of Day: Normal Day, A.M. Only, Afternoon Only, Evenings

Counseling Needs

Curriculum Level

researched area of the whole field. IGE, the Dunns and Fizzell all have extensive documentation for the importance of their variables and the effectiveness of their approaches. Rita Dunn and her colleagues have created the Learning Styles Network, which promotes and distributes research on learning styles.[7] Overall, these efforts demonstrate quite conclusively that we can be significantly more effective in educating if we respond to style differences. Regardless of which approach is used, it is found that we are able to educate students who were not responding to the single approach of the traditional classroom. In fact, Fizzell found that the student who might fail in one program can succeed in another which has the same goals and standards but serves different styles.[8]

Related to these middle approaches to learning style is the effort to relate teacher characteristics and student characteristics. David Hunt[9] was one of the pioneers in this over ten years ago. He noted that there are some four sets of characteristics, or orientations, of students which must be considered in matching them to an environment: cognitive, motivational, values, and sensory perception. Nancy Reckinger has pursued this question using the personality concepts from Kiersey and Bates. She points out that the dominant personality type of teachers is quite different from that of students and that a conscious effort at compromise is necessary to avoid conflicts.[10] Practical Applications of Research[11] explored the concept of matching learners and teachers and indicated the many problems in this process.

Problems With Application

Defining and matching styles are only part of the problem, however. Beyond this, there are several questions of philosophy and values which must be carefully considered before we may develop plans to respond to style differences.

Probably, the first thing that strikes many of you as you follow this discussion is the feeling of "So what?" You recognize, perhaps, that your

style or that of friends did not fit into traditional school very well, but you succeeded anyway. You suspect that, while style differences may be real, they do not make much difference in school success.

Actually, this involves three different questions: (1) the relative importance to success of meeting style difference, (2) the ability to adapt to a situation which does not fit your style, (3) the attitude of the school towards adaptability.

As to the importance for success of matching styles, school people generally assume that school success rests primarily on two factors: ability and motivation. Therefore, they feel that efforts at meeting learning style differences will probably have little impact. This explanation of success needs some reconsideration, however.

Let's look at ability more closely. If we take general IQ as the most appropriate measure of ability, we find that it is not an adequate predictor of school performance. It correlates with academic achievement at about .55,[12] which means that IQ differences explain only about 30 percent of the differences in achievement. Viewing it from another perspective, we might ask how much ability does it take to master high school--that is, to get at least Bs in all required subjects? While this can't be answered directly, it would appear that an IQ of 90 is adequate. All high school teachers have had such students. We know that ten percent of professionals with advanced degrees do not have IQs over 107,[13] so, working backwards, a 90 seems reasonable. If that is the case, then some 75-80 percent of our students should be able to master high school. By ability alone, then, nearly 80 percent <u>should</u> be able to do what only 15-20 percent <u>actually</u> do.

School people are quick to point out their second favorite explanation as an alternative to cover this other 55-65 percent: lack of motivation.

According to this idea, between one-half and two-thirds of all students choose to be failures. Erik Erikson might be surprised at this! He, as well as many other child psychologists, see the school years as a time when children want recognition, want to succeed, want to prove themselves. Normally, developing children would not want to fail. While we certainly see children who have given up, who have lost hope of succeeding in school, children who don't want to succeed are rare indeed.

Thus, low ability or lack of motivation cannot be the major factors holding students back. But, there are other influences which have been proven important. As Raymond Cattel[14] noted some time ago, we can increase our prediction of achievement by over 100 percent by adding personality information to IQ. The research reported above by the Dunns, Hunt, and Fizzell, among others, has clearly demonstrated that meeting schooling style differences does improve achievement.

From these considerations, then, we must conclude that for nearly half of the students with whom we deal we could significantly improve achievement if we met their needs for different learning environments.

This brings us to the next question: the students' ability to adapt to a situation. Obviously, we can't all have things the way we want them all the time. Many of us can see that our preferred learning style differs from traditional school, but we adjusted and made it through.

School people differ in their response to this situation. Often they take the position that we must force the students to be flexible and fit in. This, they say, is the way the adult world works and is what the students must learn to deal with. An alternative view is to meet the students where they are, to provide programs to match their styles. This approach assumes that as the students experience success and become competent, they will also become more flexible.

This author suspects that the ability to adapt to a less than desirable learning situation is dependent on two things: learning ability and self-confidence. The more able one is and the more confident one is, the more likely that he or she will be able to adapt. This is just what we see in school. At the low end, we have the person with less ability but some confidence who really "tunes in" to the traditional school style and becomes an "overachiever." At the high end is the person with good ability but low self-concept and a nontraditional style who just can't seem to make it in school and gets labeled an "underachiever." While this relationship appears reasonable, it must be investigated more thoroughly. At present, the work of Niles and Mustachio[15] points to such links.

Problems With the Concept

Beyond these specific questions about the importance of learning style and whether we should try to meet such differences, our general conceptions about schooling also affect the way we think about styles. We all differ as to what we believe about the nature of schools and their role in our society. Some of these beliefs influence our perceptions of how to respond to style differences.

First, many people continue to look for the ideal classroom. IGE, the Dunns, Gregorc, and many others believe that there is one best way to do schooling. The Dunns state, "given the practical, 'how-to' skills for teaching students through their individual learning styles, most teachers can become effective with most students..."[16] These authors expect that a well designed classroom with a good teacher can meet the needs of virtually every student. On the other hand, the alternative school people believe that we need several separate schools to meet different styles. Fizzell's work[17] demonstrates the importance of variables which cannot readily be dealt with within one room or even within one building at times.

A second point of divergence is on the question of choice vs. assignment. People proposing a variety of alternative schools believe that students can identify the environment in which they will do best. They believe that giving students choice has several benefits. First, it leads to a degree of commitment by the student to the program. The student has real involvement in his or her own success or failure. Second, it helps teach decision making and responsibility. The student cannot blame others for his or her situation. Finally, it helps to involve the parents in the schooling process, since they must advise and consent to the student's decision. Beyond this, many alternative school people believe that choice is a right in a democratic society.

Other persons, particularly those from a special education background, believe that it is the professional's responsibility to diagnose the student and prescribe appropriate educational treatment. They believe that students and parents are not adequately prepared to make such decisions. The professionals, on the other hand, have the knowledge and tools to help students get into programs where they can benefit without wasting several semesters hunting around for the right situation.

Finally, we have the question of the expected outcome of the schooling process. While we claim that public schools should educate every child to his or her potential, there is little agreement as to what that means. Certainly, it may not be taken at face value; since we do not really want to educate children completely, but only to certain limited goals. For example, we want children to learn some basics of science in public schools, but we leave much more to be learned later, if they choose to. What we want is to bring at least some students up to an ill defined base for further education.

The problem is with the question of what is meant by "some students." Often school people assume this to mean some sort of a small elite. Our grading

system generally is based on the idea that less than 30 percent will achieve mastery (As and Bs). As noted above, some people might believe that only 30 percent can achieve mastery due to ability or motivation. Others might feel that only this portion should achieve mastery since the rest are needed for menial work as adults.

This position is opposed by those who believe that it is in society's interest to educate all youth to mastery of the goals. Furthermore, they believe that 75 percent to 85 percent could achieve this by age 21 if we provided appropriate services.

These two perspectives differ on the importance of dealing with style differences. The first position holds that schools today pretty well accomplish what they are supposed to. For them, meeting learning style differences is somewhat of a frill. On the other hand, those seeking to educate all youth find that much more must be done. They might look to learning styles as a way to approach their goals.

In conclusion, we find that "learning styles" is a vast, diverse, and rapidly growing field. It is already clear that these investigations are providing us with ideas and evidence that could revolutionize schooling. It is also clear, however, that these developments do not stand alone. Learning style questions have their roots in philosophical positions that are fundamental to our public schooling system. To fail to understand these positions is to fail to understand, and thereby fail to be able to apply, what we are learning about style differences.

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